

SOUTHWESTERN ENERGY

Location: Ohio County, WV
 Slot: Slot 201H
 Well: Rayle Coal OHI 201H
 Field: Ohio
 Wellbore: Rayle Coal OHI 201H PWB

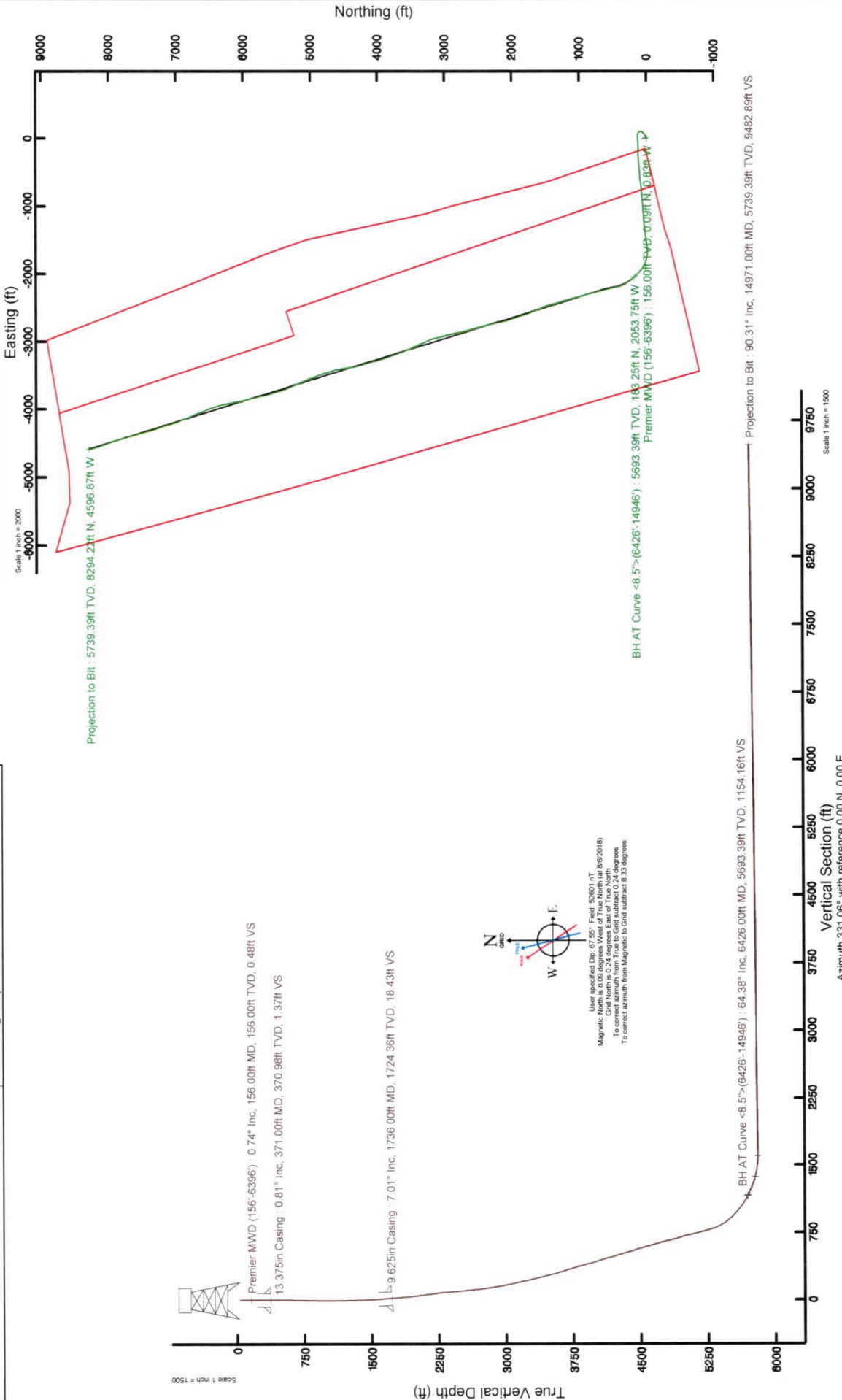
Facility: Rayle Coal OHI Pad	Wellbore: Rayle Coal OHI 201H PWB
Grid System: NAD83 / UTM Zone 17 North, US feet	
* = Wellpath was transformed from a different geodetic datum	
Plot reference wellpath is Rayle Coal OHI 201H PWP Rev-A.0	North Reference: Grid north
True vertical depths are referenced to SDC 41 (RKB)	Scale: True distance
Measured depths are referenced to SDC 41 (RKB)	Depths are in feet
SDC 41 (RKB) to Mean Sea Level: 1090 feet	Created by: thomszcc on 2018-06-28
Mean Sea Level to Ground level (At Slot: Slot 201H): -1064 feet	Database: WA_Pennsylvania
Coordinates are in feet referenced to Slot	



Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Rayle Coal OHI Pad	1744351.331	14585677.739	80°37'40.786"W
Local N (ft)	Local E (ft)	Grid North (US ft)	Latitude
37.60	327.80	14585715.327	40°09'40.938"N
Slot 201H	Slot 201H	Mean Sea Level to Ground level (At Slot: Slot 201H)	26ft
SDC 41 (RKB) to Ground level (At Slot: Slot 201H)	Mean Sea Level to Mean Sea Level	SDC 41 (RKB) to Mean Sea Level	-1064ft
			1090ft

Comments

API: 47-069-00263-0000
 BH Job #: 109301720
 Rig: SDC 41
 Duration: 08/10/2018 - 08/13/2018



Vertical Section (ft)
 Azimuth 331.06° with reference 0.00 N, 0.00 E
 Scale 1 inch = 1500

**RAYLE COAL OHI 201H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	2/21/2019	14,927	14,828	36
2	3/29/2019	14,797	14,620	36
3	3/29/2019	14,587	14,410	36
4	3/30/2019	14,377	14,200	36
5	3/30/2019	14,171	13,990	36
6	3/31/2019	13,955	13,780	36
7	3/31/2019	13,732	13,570	36
8	3/31/2019	13,537	13,360	36
9	3/31/2019	13,327	13,150	36
10	4/1/2019	13,117	12,940	36
11	4/1/2019	12,907	12,730	36
12	4/1/2019	12,697	12,520	36
13	4/1/2019	12,487	12,310	36
14	4/2/2019	12,277	12,100	36
15	4/2/2019	12,067	11,890	36
16	4/2/2019	11,857	11,680	36
17	4/2/2019	11,647	11,470	36
18	4/3/2019	11,437	11,260	36
19	4/3/2019	11,227	11,050	36
20	4/3/2019	11,017	10,840	36
21	4/3/2019	10,807	10,635	36
22	4/3/2019	10,597	10,420	36
23	4/4/2019	10,382	10,210	36
24	4/4/2019	10,174	10,000	36
25	4/4/2019	9,967	9,790	42
26	4/5/2019	9,757	9,580	36
27	4/5/2019	9,547	9,370	36
28	4/5/2019	9,337	9,160	36
29	4/5/2019	9,127	8,950	36
30	4/5/2019	8,917	8,740	36
31	4/6/2019	8,707	8,530	36
32	4/6/2019	8,497	8,255	54
33	4/6/2019	8,287	8,110	36
34	4/7/2019	8,073	7,898	36
35	4/7/2019	7,867	7,691	36
36	4/7/2019	7,657	7,480	36
37	4/7/2019	7,447	7,270	36
38	4/7/2019	7,237	7,060	36
39	4/7/2019	7,027	6,850	36

**RAYLE COAL OHI 201H
ATTACHMENT 2
STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
1	3/29/2019	78	8,038	7,991	3,681	236,550	5,230	0
2	3/29/2019	92	7,924	5,444	4,021	434,190	7,905	0
3	3/30/2019	90	8,060	5,572	3,984	430,730	8,176	0
4	3/30/2019	84	7,514	5,375	3,975	394,345	8,438	0
5	3/30/2019	94	7,687	5,821	4,053	431,640	7,930	0
6	3/31/2019	95	7,766	5,748	4,216	424,270	8,478	0
7	3/31/2019	93	7,897	4,676	4,436	418,035	8,348	0
8	3/31/2019	93	7,962	5,514	4,511	427,570	7,666	0
9	4/1/2019	91	8,043	5,701	4,417	428,480	7,546	0
10	4/1/2019	88	7,914	4,903	4,455	416,995	8,528	0
11	4/1/2019	94	7,745	4,932	4,516	418,775	7,535	0
12	4/1/2019	93	8,059	5,586	4,116	420,575	7,100	0
13	4/1/2019	91	8,272	5,326	4,356	429,060	7,253	0
14	4/2/2019	96	8,057	6,079	4,410	425,280	7,397	0
15	4/2/2019	69	7,309	4,935	4,318	417,280	10,571	0
16	4/2/2019	84	8,229	5,614	4,310	425,000	8,000	0
17	4/2/2019	39	6,883	5,673	4,103	3,175	2,618	0
18	4/3/2019	96	7,338	5,945	4,601	429,100	8,612	0
19	4/3/2019	89	7,416		5,149	418,460	7,256	0
20	4/3/2019	100	7,460	5,842	4,734	422,832	7,114	0
21	4/4/2019	93	7,239	4,688	4,250	410,718	7,203	0
22	4/4/2019	93	7,201	4,452	4,582	415,270	7,145	0
23	4/4/2019	93	7,450	4,514	5,030	415,285	6,932	0
24	4/4/2019	100	7,123	5,247	4,762	422,563	7,070	0
25	4/4/2019	91	7,713	5,401	4,409	420,315	11,565	0
26	4/5/2019	93	7,084	4,404	4,517	420,340	6,603	0
27	4/5/2019	94	7,054	4,025	4,482	417,015	6,266	0
28	4/5/2019	95	6,982	5,561	4,424	425,420	6,688	0
29	4/5/2019	93	6,970	5,647	4,411	432,232	7,252	0
30	4/6/2019	94	7,008	4,446	4,432	415,482	6,520	0
31	4/6/2019	95	7,332	5,317	4,573	415,925	6,400	0
32	4/6/2019	91	6,440	5,406	4,461	423,321	12,543	0
33	4/6/2019	93	6,698	5,233	4,461	413,950	6,957	0
34	4/7/2019	92	6,943	5,480	4,694	416,493	6,608	0
35	4/7/2019	94	7,017	5,515	4,694	433,355	6,603	0
36	4/7/2019	97	6,964	5,648	4,694	433,565	6,913	0
37	4/7/2019	93	7,149	5,616	4,694	412,385	7,021	0
38	4/7/2019	93	6,647	4,805	4,568	410,272	6,411	0
39	4/7/2019	92	6,640	5,489	4,939	418,842	6,257	0



Well Name: Rayle Coal OHI 201H

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	290.00	290.00	
Top of Salt Water	555.00	555.00	NA	NA	
Pittsburgh Coal	242.00	242.00	248.00	248.00	
Big Injun (ss)	1329.00	1329.00	1812.00	1812.00	
Berea (siltstone)	1812.00	1812.00	5943.00	5243.00	
Tully (ls)	6292.00	5626.00	6387.00	5676.00	
Mahantango (shale)	6387.00	5676.00	6610.00	5763.00	
Marcellus (shale)	6610.00	5763.00	NA	NA	GAS

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Ohio County, WV	Well	Rayle Coal OHI 201H
Field	Ohio	Wellbore	Rayle Coal OHI 201H AWB
Facility	Rayle Coal OHI Pad		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Thomsuzc
Scale	0.999612	Report Generated	8/28/2018 at 9:13:03 AM
Convergence at slot	0.25° East	Database/Source file	WA_Pennsylvania/Rayle_Coal_OHI_201H_AWP_Proj_14971_MD.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	37.60	327.80	1744679.00	14585715.33	40°09'40.939"N	80°37'36.562"W
Facility Reference Pt			1744351.33	14585677.74	40°09'40.581"N	80°37'40.786"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM

Calculation method	Minimum curvature	SDC 41 (RKB) to Facility Vertical Datum	1090.00ft
Horizontal Reference Pt	Slot	SDC 41 (RKB) to Mean Sea Level	1090.00ft
Vertical Reference Pt	SDC 41 (RKB)	SDC 41 (RKB) to Ground Level at Slot (Slot 201H)	26.00ft
MD Reference Pt	SDC 41 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	331.06°

REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 201H
SOUTHWESTERN ENERGY	Well	Rayle Coal OHI 201H
Area	Wellbore	Rayle Coal OHI 201H AWB
Field		
Facility		

WELLPATH DATA (178 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert.Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	276.010	0.00	0.00	0.00	0.00	1744679.00	14585715.33	40°09'40.939"N	80°37'36.562"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	276.010	26.00	0.00	0.00	0.00	1744679.00	14585715.33	40°09'40.939"N	80°37'36.562"W	0.00	0.000	0.00	0.00	0.00
156.00	0.740	276.010	156.00	0.48	0.09	-0.83	1744678.16	14585715.41	40°09'40.940"N	80°37'36.573"W	0.84	276.010	0.57	0.57	-64.61
216.00	0.660	270.880	215.99	0.87	0.13	-1.57	1744677.43	14585715.46	40°09'40.940"N	80°37'36.582"W	1.57	274.883	0.17	-0.13	-8.55
307.00	0.790	257.080	306.98	1.31	0.00	-2.70	1744676.30	14585715.33	40°09'40.939"N	80°37'36.597"W	2.70	270.033	0.24	0.14	-15.16
314.00	0.790	251.530	313.98	1.33	-0.02	-2.79	1744676.21	14585715.30	40°09'40.939"N	80°37'36.598"W	2.79	269.497	1.09	0.00	-79.29
427.00	0.870	223.600	426.97	1.21	-0.89	-4.12	1744674.88	14585714.43	40°09'40.930"N	80°37'36.615"W	4.22	257.789	0.36	0.07	-24.72
517.00	1.220	223.080	516.96	0.71	-2.09	-5.25	1744673.75	14585713.24	40°09'40.919"N	80°37'36.630"W	5.65	248.320	0.39	0.39	-0.58
608.00	2.030	213.000	607.92	-0.34	-4.15	-6.79	1744672.21	14585711.18	40°09'40.898"N	80°37'36.650"W	7.96	238.587	0.94	0.89	-11.08
698.00	1.440	195.140	697.88	-1.91	-6.58	-7.95	1744671.05	14585708.75	40°09'40.874"N	80°37'36.665"W	10.32	230.419	0.88	-0.66	-19.84
790.00	1.380	119.320	789.86	-3.68	-8.23	-7.29	1744671.71	14585707.10	40°09'40.858"N	80°37'36.656"W	11.00	221.519	1.88	-0.07	-82.41
881.00	2.870	83.090	880.80	-5.46	-8.50	-4.07	1744674.93	14585706.83	40°09'40.855"N	80°37'36.615"W	9.42	205.607	2.13	1.64	-39.81
971.00	5.200	66.950	970.57	-6.73	-6.63	1.92	1744680.92	14585708.70	40°09'40.873"N	80°37'36.538"W	6.90	163.854	2.86	2.59	-17.93
1061.00	7.890	61.030	1059.98	-7.14	-2.04	11.08	1744690.07	14585713.29	40°09'40.918"N	80°37'36.419"W	11.26	100.425	3.08	2.99	-6.58
1152.00	10.750	57.890	1149.77	-6.67	5.50	23.73	1744702.72	14585720.82	40°09'40.992"N	80°37'36.256"W	24.36	76.953	3.19	3.14	-3.45
1241.00	12.660	55.260	1236.91	-5.23	15.47	38.78	1744717.76	14585730.79	40°09'41.090"N	80°37'36.062"W	41.75	68.251	2.23	2.15	-2.96
1333.00	12.470	54.460	1326.71	-3.07	26.99	55.15	1744734.12	14585742.31	40°09'41.203"N	80°37'35.850"W	61.40	63.923	0.28	-0.21	-0.87
1426.00	10.840	53.220	1417.79	-0.72	38.06	70.32	1744749.29	14585753.37	40°09'41.312"N	80°37'35.654"W	79.96	61.575	1.77	-1.75	-1.33
1519.00	9.110	44.300	1509.38	2.60	48.57	82.47	1744761.44	14585763.88	40°09'41.416"N	80°37'35.497"W	95.71	59.505	2.49	-1.86	-9.59
1611.00	7.610	28.830	1600.42	7.95	59.12	90.50	1744769.46	14585774.42	40°09'41.519"N	80°37'35.393"W	108.10	56.844	2.92	-1.63	-16.82
1682.00	7.600	18.850	1670.79	13.61	67.68	94.28	1744773.24	14585782.98	40°09'41.604"N	80°37'35.344"W	116.06	54.326	1.86	-0.01	-14.06
1756.00	6.810	11.690	1744.21	20.23	76.61	96.75	1744775.71	14585791.91	40°09'41.692"N	80°37'35.312"W	123.41	51.627	1.61	-1.07	-9.68
1817.00	6.450	8.340	1804.80	25.70	83.54	97.98	1744776.94	14585798.84	40°09'41.760"N	80°37'35.296"W	128.76	49.548	0.87	-0.59	-5.49
1907.00	4.960	347.660	1894.36	33.45	92.35	97.88	1744776.84	14585807.64	40°09'41.847"N	80°37'35.296"W	134.57	46.667	2.80	-1.66	-22.98
1997.00	6.140	324.580	1983.95	41.96	100.07	94.26	1744773.22	14585815.36	40°09'41.924"N	80°37'35.343"W	137.47	43.287	2.78	1.31	-25.64
2090.00	7.670	308.510	2076.28	52.64	107.99	86.52	1744765.48	14585823.27	40°09'42.003"N	80°37'35.442"W	138.37	38.702	2.63	1.65	-17.28
2182.00	9.150	297.660	2167.30	64.42	115.21	75.24	1744754.20	14585830.49	40°09'42.074"N	80°37'35.587"W	137.60	33.146	2.35	1.61	-11.79
2275.00	9.110	292.800	2259.12	76.37	121.49	61.90	1744740.87	14585836.77	40°09'42.137"N	80°37'35.758"W	136.35	26.998	0.83	-0.04	-5.23
2368.00	9.390	277.280	2350.93	86.64	125.31	47.58	1744726.56	14585840.59	40°09'42.175"N	80°37'35.942"W	134.04	20.793	2.69	0.30	-16.69
2460.00	9.080	269.830	2441.74	94.56	126.24	32.88	1744711.87	14585841.52	40°09'42.185"N	80°37'36.132"W	130.45	14.599	1.34	-0.34	-8.10

REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 201H
SOUTHWESTERN ENERGY	Well	Rayle Coal OHI 201H
Area	Wellbore	Rayle Coal OHI 201H AWB
Field		
Facility		

WELLPATH DATA (178 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2553.00	10.600	269.810	2533.37	102.21	126.19	16.99	1744695.98	14585841.47	40°09'42.185"N	80°37'36.336"W	127.33	7.667	1.63	1.63	-0.02
2646.00	13.270	266.210	2624.35	110.86	125.45	-2.22	1744676.78	14585840.73	40°09'42.179"N	80°37'36.584"W	125.47	358.986	2.98	2.87	-3.87
2739.00	15.580	263.650	2714.41	120.20	123.37	-25.29	1744653.72	14585838.65	40°09'42.159"N	80°37'36.881"W	125.93	348.416	2.58	2.48	-2.75
2831.00	17.510	266.940	2802.60	130.99	121.26	-51.39	1744627.63	14585836.54	40°09'42.139"N	80°37'37.217"W	131.70	337.033	2.33	2.10	3.58
2924.00	20.120	270.260	2890.62	144.90	120.59	-81.36	1744597.67	14585835.87	40°09'42.134"N	80°37'37.603"W	145.47	325.992	2.03	2.81	3.57
3017.00	21.360	269.610	2977.60	160.80	120.54	-114.29	1744564.75	14585835.82	40°09'42.135"N	80°37'38.028"W	166.11	316.525	1.36	1.33	-0.70
3109.00	22.940	269.330	3062.80	177.30	120.22	-148.98	1744530.08	14585835.50	40°09'42.133"N	80°37'38.474"W	191.44	308.902	1.72	1.72	-0.30
3202.00	24.330	270.690	3148.00	195.35	120.24	-186.26	1744492.81	14585835.52	40°09'42.135"N	80°37'38.955"W	221.70	302.844	1.61	1.49	1.46
3295.00	26.530	269.410	3231.99	214.69	120.26	-226.19	1744452.90	14585835.54	40°09'42.137"N	80°37'39.469"W	256.17	297.998	2.44	2.37	-1.38
3388.00	28.660	266.520	3314.41	234.14	118.69	-269.23	1744409.88	14585833.97	40°09'42.123"N	80°37'40.023"W	294.23	293.790	2.70	2.29	-3.11
3480.00	30.540	265.130	3394.40	253.16	115.36	-314.54	1744364.58	14585830.65	40°09'42.092"N	80°37'40.607"W	335.03	290.141	2.18	2.04	-1.51
3573.00	32.020	265.190	3473.88	272.88	111.29	-362.66	1744316.48	14585826.57	40°09'42.054"N	80°37'41.227"W	379.35	287.060	1.59	1.59	0.06
3663.00	33.230	265.160	3549.67	292.71	107.21	-411.01	1744268.15	14585822.49	40°09'42.015"N	80°37'41.850"W	424.76	284.620	1.34	1.34	-0.03
3755.00	35.060	265.780	3625.81	314.05	103.14	-462.48	1744216.70	14585818.42	40°09'41.977"N	80°37'42.513"W	473.84	282.572	2.02	1.99	0.67
3848.00	37.570	266.640	3700.74	337.47	99.51	-517.43	1744161.77	14585814.80	40°09'41.944"N	80°37'43.221"W	526.91	280.886	2.75	2.70	0.92
3938.00	37.080	265.330	3772.31	360.47	95.69	-571.87	1744107.35	14585810.98	40°09'41.908"N	80°37'43.922"W	579.82	279.500	1.04	-0.54	-1.46
4028.00	35.570	262.350	3844.83	381.13	90.00	-624.86	1744054.38	14585805.29	40°09'41.854"N	80°37'44.605"W	631.31	278.196	2.58	-1.68	-3.31
4121.00	36.220	261.570	3920.17	400.57	82.37	-678.85	1744000.42	14585797.66	40°09'41.781"N	80°37'45.301"W	683.83	276.918	0.85	0.70	-0.84
4214.00	37.060	264.550	3994.80	421.37	75.68	-733.93	1743945.36	14585790.98	40°09'41.717"N	80°37'46.011"W	737.82	275.887	2.11	0.90	3.20
4306.00	36.240	267.310	4068.61	444.45	71.77	-788.69	1743890.61	14585787.07	40°09'41.681"N	80°37'46.716"W	791.95	275.199	2.00	-0.89	3.00
4399.00	34.890	264.920	4144.26	467.37	68.12	-842.65	1743836.67	14585783.42	40°09'41.647"N	80°37'47.412"W	845.40	274.622	2.08	-1.45	-2.57
4492.00	34.970	265.140	4220.51	489.00	63.51	-895.70	1743783.65	14585778.81	40°09'41.604"N	80°37'48.095"W	897.95	274.056	0.16	0.09	0.24
4585.00	35.760	265.670	4296.35	511.20	59.20	-949.35	1743730.01	14585774.50	40°09'41.563"N	80°37'48.786"W	951.20	273.568	0.91	0.85	0.57
4678.00	36.530	265.790	4371.45	534.09	55.12	-1004.06	1743675.33	14585770.42	40°09'41.525"N	80°37'49.491"W	1005.57	273.142	0.83	0.83	0.13
4771.00	35.510	264.260	4446.67	556.31	50.38	-1058.54	1743620.87	14585765.69	40°09'41.481"N	80°37'50.193"W	1059.74	272.725	1.46	-1.10	-1.65
4863.00	35.380	263.530	4521.62	577.02	44.71	-1111.59	1743567.85	14585760.02	40°09'41.427"N	80°37'50.877"W	1112.48	272.303	0.48	-0.14	-0.79
4956.00	35.080	267.110	4597.59	599.05	40.33	-1165.03	1743514.42	14585755.64	40°09'41.386"N	80°37'51.565"W	1165.73	271.983	2.24	-0.32	3.85
5049.00	34.010	265.580	4674.20	621.58	36.98	-1217.66	1743461.81	14585752.29	40°09'41.355"N	80°37'52.243"W	1218.22	271.739	1.48	-1.15	-1.65
5142.00	34.640	263.640	4751.00	642.52	32.04	-1269.86	1743409.63	14585747.36	40°09'41.308"N	80°37'52.916"W	1270.27	271.446	1.36	0.68	-2.09
5236.00	34.310	263.240	4828.49	662.78	25.97	-1322.72	1743356.79	14585741.28	40°09'41.250"N	80°37'53.597"W	1322.98	271.125	0.43	-0.35	-0.43

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Ohio County, WV	Well	Rayle Coal OHI 201H
Field	Ohio	Wellbore	Rayle Coal OHI 201H AWB
Facility	Rayle Coal OHI Pad		

WELLPATH DATA (178 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5329.00	34.390	265.090	4905.28	683.37	20.63	-1374.92	1743304.61	14585735.95	40°09'41.200"N	80°37'54.270"W	1375.07	270.860	1.13	0.09	1.99
5422.00	35.520	266.360	4981.50	705.61	16.67	-1428.05	1743251.50	14585731.99	40°09'41.163"N	80°37'54.954"W	1428.15	270.669	1.45	1.22	1.37
5515.00	34.420	260.530	5057.73	725.93	10.63	-1480.96	1743198.62	14585725.95	40°09'41.105"N	80°37'55.636"W	1480.99	270.411	3.78	-1.18	-6.27
5608.00	32.910	261.130	5135.13	743.36	2.41	-1531.85	1743147.75	14585717.73	40°09'41.026"N	80°37'56.292"W	1531.85	270.090	1.66	-1.62	0.65
5701.00	35.080	263.880	5212.24	762.40	-4.34	-1583.39	1743096.22	14585710.99	40°09'40.961"N	80°37'56.956"W	1583.40	269.843	2.86	2.33	2.96
5793.00	37.210	264.840	5286.52	783.87	-9.66	-1637.39	1743042.25	14585705.67	40°09'40.911"N	80°37'57.652"W	1637.42	269.662	2.40	2.32	1.04
5840.00	39.290	268.410	5323.44	796.44	-11.35	-1666.42	1743013.22	14585703.98	40°09'40.895"N	80°37'58.026"W	1666.46	269.610	6.46	4.43	7.60
5886.00	40.940	272.310	5358.62	810.95	-11.15	-1696.05	1742983.61	14585704.18	40°09'40.899"N	80°37'58.408"W	1696.09	269.623	6.53	3.59	8.48
5933.00	43.140	276.480	5393.53	828.26	-8.71	-1727.41	1742952.26	14585706.62	40°09'40.924"N	80°37'58.811"W	1727.43	269.711	7.56	4.68	8.87
5979.00	45.450	280.010	5426.46	847.68	-4.09	-1759.19	1742920.49	14585711.24	40°09'40.971"N	80°37'59.220"W	1759.19	269.867	7.34	5.02	7.67
6025.00	48.060	284.150	5457.98	869.68	2.95	-1791.93	1742887.76	14585718.27	40°09'41.042"N	80°37'59.642"W	1791.94	270.094	8.67	5.67	9.00
6072.00	49.480	289.610	5488.97	895.03	13.22	-1825.73	1742853.98	14585728.54	40°09'41.145"N	80°38'00.076"W	1825.78	270.415	9.24	3.02	11.62
6118.00	50.400	294.390	5518.58	922.36	26.41	-1858.35	1742821.37	14585741.73	40°09'41.276"N	80°38'00.496"W	1858.54	270.814	8.20	2.00	10.39
6164.00	50.780	298.700	5547.79	951.63	42.29	-1890.13	1742789.61	14585757.60	40°09'41.435"N	80°38'00.904"W	1890.60	271.282	7.29	0.83	9.37
6211.00	51.250	304.570	5577.38	983.43	61.44	-1921.21	1742758.54	14585776.75	40°09'41.625"N	80°38'01.304"W	1922.19	271.832	9.76	1.00	12.49
6257.00	52.910	309.560	5605.66	1016.57	83.32	-1950.13	1742729.62	14585798.61	40°09'41.843"N	80°38'01.675"W	1951.91	272.446	9.29	3.61	10.85
6303.00	55.520	312.460	5632.56	1051.62	107.81	-1978.27	1742701.49	14585823.09	40°09'42.086"N	80°38'02.036"W	1981.21	273.119	7.64	5.67	6.30
6350.00	59.400	314.210	5657.84	1089.35	135.00	-2007.08	1742672.70	14585850.28	40°09'42.356"N	80°38'02.406"W	2011.61	273.848	8.83	8.26	3.72
6396.00	62.830	316.090	5680.05	1128.08	163.56	-2035.47	1742644.32	14585878.82	40°09'42.639"N	80°38'02.770"W	2042.03	274.594	8.27	7.46	4.09
6426.00	64.380	318.170	5693.39	1154.16	183.25	-2053.75	1742626.05	14585898.51	40°09'42.834"N	80°38'03.004"W	2061.91	275.099	8.08	5.17	6.93
6473.00	66.010	320.250	5713.11	1195.91	215.55	-2081.61	1742598.20	14585930.80	40°09'43.155"N	80°38'03.362"W	2092.74	275.912	5.31	3.47	4.43
6519.00	67.550	323.150	5731.25	1237.62	248.73	-2107.80	1742572.02	14585963.96	40°09'43.484"N	80°38'03.697"W	2122.43	276.730	6.69	3.35	6.30
6566.00	69.470	327.910	5748.48	1281.13	284.77	-2132.53	1742547.29	14585999.99	40°09'43.841"N	80°38'04.014"W	2151.46	277.606	10.27	4.09	10.13
6612.00	71.620	332.980	5763.80	1324.48	322.49	-2152.91	1742525.93	14586037.69	40°09'44.214"N	80°38'04.287"W	2177.92	278.515	11.39	4.67	11.02
6659.00	74.040	337.980	5777.69	1369.23	363.33	-2172.52	1742492.32	14586078.52	40°09'44.619"N	80°38'04.525"W	2202.07	279.494	11.39	5.15	10.64
6705.00	77.660	342.920	5788.94	1413.22	405.35	-2187.43	1742462.42	14586120.52	40°09'45.035"N	80°38'04.714"W	2224.67	280.498	13.05	7.87	10.74
6751.00	82.570	346.640	5796.83	1457.22	449.06	-2199.31	1742430.55	14586164.21	40°09'45.467"N	80°38'04.865"W	2244.69	281.540	13.32	10.67	8.09
6797.00	86.090	348.180	5801.38	1501.13	493.73	-2209.28	1742400.58	14586208.86	40°09'45.909"N	80°38'04.991"W	2263.78	282.597	8.35	7.65	3.35
6844.00	86.950	346.940	5804.23	1546.11	539.54	-2219.39	1742460.47	14586254.65	40°09'46.362"N	80°38'05.119"W	2284.03	283.664	3.21	1.83	-2.64
6890.00	90.310	345.740	5805.33	1590.47	584.22	-2230.25	1742449.62	14586299.31	40°09'46.804"N	80°38'05.256"W	2305.50	284.679	7.76	7.30	-2.61

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Ohio County, WV	Well	Rayle Coal OHI 201H
Field	Ohio	Wellbore	Rayle Coal OHI 201H AWB
Facility	Rayle Coal OHI Pad		

WELLPATH DATA (178 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
6983.00	90.460	345.770	5804.71	1680.42	674.35	-2253.13	1742426.75	14586389.42	40°09'47.695"N	80°38'05.546"W	2351.88	286.662	0.16	0.16	0.03
7076.00	90.490	345.420	5803.93	1770.44	764.43	-2276.27	1742403.62	14586479.46	40°09'48.587"N	80°38'05.840"W	2401.19	288.563	0.38	0.03	-0.38
7168.00	90.460	344.370	5803.17	1859.77	853.24	-2300.24	1742379.66	14586568.24	40°09'49.465"N	80°38'06.144"W	2453.39	290.352	1.14	-0.03	-1.14
7261.00	90.400	344.410	5802.47	1950.26	942.81	-2325.26	1742354.64	14586657.77	40°09'50.351"N	80°38'06.461"W	2509.13	292.071	0.08	-0.06	0.04
7354.00	90.520	344.110	5801.73	2040.80	1032.32	-2350.49	1742329.42	14586747.25	40°09'51.237"N	80°38'06.781"W	2567.20	293.711	0.35	0.13	-0.32
7446.00	90.770	344.530	5800.69	2130.34	1120.89	-2375.35	1742304.57	14586835.78	40°09'52.113"N	80°38'07.097"W	2626.54	295.262	0.53	0.27	0.46
7539.00	90.490	343.870	5799.67	2220.90	1210.37	-2400.67	1742279.26	14586925.23	40°09'52.998"N	80°38'07.418"W	2688.54	296.756	0.77	-0.30	-0.71
7632.00	90.460	343.690	5798.90	2311.61	1299.67	-2426.65	1742253.29	14587014.49	40°09'53.882"N	80°38'07.748"W	2752.77	298.173	0.20	-0.03	-0.19
7724.00	91.850	344.650	5797.04	2401.19	1388.16	-2451.74	1742228.21	14587102.94	40°09'54.757"N	80°38'08.067"W	2817.45	299.518	1.84	1.51	1.04
7817.00	91.790	343.140	5794.09	2491.82	1477.46	-2477.53	1742202.44	14587192.21	40°09'55.641"N	80°38'08.394"W	2884.62	300.810	1.62	-0.06	-1.62
7910.00	89.630	336.760	5792.94	2583.65	1564.77	-2509.39	1742170.59	14587279.48	40°09'56.505"N	80°38'08.800"W	2957.28	301.946	7.24	-2.32	-6.86
8003.00	89.600	336.990	5793.56	2676.18	1650.23	-2546.06	1742133.93	14587364.91	40°09'57.351"N	80°38'09.268"W	3034.09	302.949	0.05	-0.03	0.03
8095.00	89.420	339.150	5794.35	2767.50	1735.50	-2580.57	1742099.44	14587450.15	40°09'58.195"N	80°38'09.708"W	3109.87	303.922	2.57	-0.20	2.57
8188.00	89.570	342.780	5795.17	2859.10	1823.40	-2610.89	1742069.12	14587538.01	40°09'59.065"N	80°38'10.094"W	3184.58	304.930	3.91	0.16	3.90
8281.00	89.690	340.710	5795.77	2950.48	1911.71	-2640.02	1742040.00	14587626.29	40°09'59.939"N	80°38'10.464"W	3259.50	305.909	2.23	0.13	-2.23
8374.00	89.970	341.440	5796.04	3042.06	1999.68	-2670.18	1742009.85	14587714.23	40°10'00.809"N	80°38'10.848"W	3335.96	306.829	0.84	0.30	0.78
8466.00	89.660	343.900	5796.34	3132.17	2087.50	-2697.59	1741982.46	14587802.01	40°10'01.678"N	80°38'11.197"W	3410.96	307.734	2.70	-0.34	2.67
8559.00	89.720	347.920	5796.84	3222.04	2177.68	-2720.22	1741959.84	14587892.16	40°10'02.570"N	80°38'11.483"W	3484.52	308.679	4.32	0.06	4.32
8652.00	90.250	347.250	5796.87	3311.20	2268.51	-2740.22	1741939.85	14587982.95	40°10'03.469"N	80°38'11.736"W	3557.37	309.620	0.92	0.57	-0.72
8744.00	90.310	345.570	5796.42	3399.92	2357.92	-2761.83	1741918.24	14588072.33	40°10'04.353"N	80°38'12.010"W	3631.46	310.489	1.83	0.07	-1.83
8837.00	89.970	344.640	5796.19	3490.13	2447.80	-2785.74	1741894.35	14588162.17	40°10'05.242"N	80°38'12.313"W	3708.38	311.305	1.06	-0.37	-1.00
8929.00	90.180	344.370	5796.07	3579.61	2536.45	-2810.32	1741869.78	14588250.79	40°10'06.119"N	80°38'12.625"W	3785.69	312.068	0.37	0.23	-0.29
9022.00	90.150	344.850	5795.80	3670.02	2626.12	-2835.00	1741845.11	14588340.42	40°10'07.006"N	80°38'12.938"W	3864.42	312.810	0.52	-0.03	0.52
9115.00	90.310	345.640	5795.43	3760.19	2716.05	-2858.68	1741821.43	14588430.32	40°10'07.896"N	80°38'13.239"W	3943.22	313.534	0.87	0.17	0.85
9207.00	90.340	347.750	5794.91	3848.78	2805.57	-2879.85	1741800.27	14588519.81	40°10'08.781"N	80°38'13.507"W	4020.55	314.251	2.29	0.03	2.29
9300.00	90.280	348.500	5794.41	3937.68	2896.58	-2898.99	1741781.14	14588610.78	40°10'09.682"N	80°38'13.748"W	4098.09	314.976	0.81	-0.06	0.81
9393.00	90.310	344.680	5793.93	4027.27	2987.03	-2920.55	1741759.58	14588701.19	40°10'10.576"N	80°38'14.021"W	4177.56	315.645	4.11	0.03	-4.11
9485.00	90.430	346.400	5793.33	4116.34	3076.11	-2943.53	1741736.62	14588790.24	40°10'11.457"N	80°38'14.313"W	4257.56	316.262	1.87	0.13	1.87
9578.00	90.680	343.550	5792.43	4206.60	3165.92	-2967.63	1741712.52	14588880.01	40°10'12.346"N	80°38'14.618"W	4339.34	316.852	3.08	0.27	-3.06
9671.00	91.630	337.450	5790.56	4298.27	3253.52	-2998.65	1741681.51	14588967.58	40°10'13.213"N	80°38'15.013"W	4424.63	317.334	6.64	1.02	-6.56

REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 201H
SOUTHWESTERN ENERGY	Well	Rayle Coal OHI 201H
Area	Wellbore	Rayle Coal OHI 201H AWB
Field		
Facility		

WELLPATH DATA (178 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
9764.00	90.770	336.480	5788.61	4390.76	3339.09	-3035.04	1741645.15	14589053.11	40°10'14.060"N	80°38'15.478"W	4512.31	317.731	1.39	-0.92	-1.04
9856.00	90.620	334.880	5787.49	4482.45	3422.91	-3072.92	1741607.28	14589136.91	40°10'14.890"N	80°38'15.961"W	4599.91	318.084	1.75	-0.16	-1.74
9949.00	90.460	337.490	5786.61	4575.07	3507.98	-3110.47	1741569.74	14589221.94	40°10'15.732"N	80°38'16.440"W	4688.38	318.437	2.81	-0.17	2.81
10042.00	90.550	338.740	5785.80	4667.36	3594.28	-3145.13	1741535.09	14589308.20	40°10'16.586"N	80°38'16.882"W	4776.05	318.813	1.35	0.10	1.34
10135.00	90.650	340.940	5784.82	4759.26	3681.57	-3177.18	1741503.06	14589395.46	40°10'17.450"N	80°38'17.291"W	4862.96	319.206	2.37	0.11	2.37
10228.00	90.520	339.520	5783.87	4851.06	3769.08	-3208.63	1741471.62	14589482.94	40°10'18.316"N	80°38'17.691"W	4949.88	319.592	1.53	-0.14	-1.53
10320.00	90.250	340.510	5783.25	4941.93	3855.54	-3240.07	1741440.19	14589569.36	40°10'19.172"N	80°38'18.092"W	5036.19	319.957	1.12	-0.29	1.08
10413.00	89.850	343.470	5783.17	5033.24	3943.97	-3268.83	1741411.45	14589657.76	40°10'20.047"N	80°38'18.457"W	5122.51	320.348	3.21	-0.43	3.18
10505.00	90.250	345.440	5783.09	5122.73	4032.60	-3293.48	1741386.80	14589746.36	40°10'20.924"N	80°38'18.770"W	5206.62	320.761	2.18	0.43	2.14
10598.00	90.430	345.020	5782.54	5212.90	4122.53	-3317.19	1741363.10	14589836.25	40°10'21.813"N	80°38'19.071"W	5291.40	321.178	0.49	0.19	-0.45
10691.00	90.220	342.830	5782.01	5303.56	4211.88	-3342.94	1741337.36	14589925.57	40°10'22.697"N	80°38'19.398"W	5377.28	321.561	2.37	-0.23	-2.35
10784.00	90.680	344.770	5781.28	5394.26	4301.18	-3368.88	1741311.43	14590014.83	40°10'23.581"N	80°38'19.728"W	5463.47	321.930	2.14	0.49	2.09
10876.00	90.490	349.730	5780.34	5482.58	4390.88	-3389.18	1741291.14	14590104.50	40°10'24.468"N	80°38'19.984"W	5546.74	322.337	5.39	-0.21	5.39
10969.00	90.430	351.690	5779.60	5570.16	4482.65	-3404.19	1741276.13	14590196.23	40°10'25.375"N	80°38'20.173"W	5628.74	322.786	2.11	-0.06	2.11
11062.00	90.650	350.110	5778.72	5657.63	4574.48	-3418.90	1741261.43	14590288.02	40°10'26.283"N	80°38'20.358"W	5710.93	323.226	1.72	0.24	-1.70
11155.00	90.680	343.880	5777.64	5747.01	4665.04	-3439.81	1741240.52	14590378.55	40°10'27.179"N	80°38'20.622"W	5796.11	323.596	6.70	0.03	-6.70
11248.00	90.770	341.750	5776.46	5838.04	4753.88	-3467.29	1741213.06	14590467.35	40°10'28.058"N	80°38'20.972"W	5884.00	323.894	2.29	0.10	-2.29
11340.00	90.680	342.130	5775.30	5928.38	4841.34	-3495.81	1741184.55	14590554.78	40°10'28.924"N	80°38'21.334"W	5971.53	324.168	0.42	-0.10	0.41
11433.00	91.290	338.060	5773.70	6020.19	4928.75	-3527.46	1741152.91	14590642.15	40°10'29.789"N	80°38'21.738"W	6060.98	324.409	4.42	0.66	-4.38
11526.00	91.320	339.510	5771.58	6112.32	5015.42	-3561.10	1741119.28	14590728.79	40°10'30.646"N	80°38'22.166"W	6151.09	324.624	1.56	0.03	1.56
11618.00	91.450	337.770	5769.36	6203.49	5101.07	-3594.60	1741085.80	14590814.41	40°10'31.494"N	80°38'22.594"W	6240.36	324.829	1.90	0.14	-1.89
11711.00	90.740	336.630	5767.58	6295.94	5186.79	-3630.63	1741049.78	14590900.09	40°10'32.343"N	80°38'23.053"W	6331.21	325.009	1.44	-0.76	-1.23
11804.00	90.680	337.000	5766.43	6388.46	5272.27	-3667.24	1741013.18	14590985.54	40°10'33.189"N	80°38'23.520"W	6422.27	325.179	0.40	-0.06	0.40
11896.00	90.650	338.130	5765.36	6479.86	5357.30	-3702.35	1740978.09	14591070.54	40°10'34.031"N	80°38'23.968"W	6512.15	325.352	1.23	-0.03	1.23
11989.00	90.650	342.400	5764.30	6571.64	5444.81	-3733.74	1740946.71	14591158.02	40°10'34.897"N	80°38'24.368"W	6602.03	325.560	4.59	0.00	4.59
12082.00	90.680	343.440	5763.22	6662.64	5533.70	-3761.06	1740919.41	14591246.87	40°10'35.776"N	80°38'24.715"W	6690.85	325.797	1.12	0.03	1.12
12175.00	90.250	345.200	5762.47	6753.16	5623.24	-3786.19	1740894.28	14591336.37	40°10'36.662"N	80°38'25.034"W	6779.09	326.047	1.95	-0.46	1.89
12267.00	89.910	347.100	5762.34	6841.98	5712.56	-3808.21	1740872.27	14591425.66	40°10'37.545"N	80°38'25.314"W	6865.55	326.311	2.10	-0.37	2.07
12360.00	89.940	346.580	5762.46	6931.48	5803.11	-3829.39	1740851.10	14591516.18	40°10'38.441"N	80°38'25.582"W	6952.72	326.580	0.56	0.03	-0.56
12453.00	90.280	345.930	5762.28	7021.22	5893.45	-3851.48	1740829.02	14591606.48	40°10'39.335"N	80°38'25.862"W	7040.36	326.835	0.79	0.37	-0.70

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Ohio County, WV	Well	Rayle Coal OHI 201H
Field	Ohio	Wellbore	Rayle Coal OHI 201H AWB
Facility	Rayle Coal OHI Pad		

WELLPATH DATA (178 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
12546.00	89.970	345.900	5762.08	7111.12	5983.65	-3874.11	1740806.39	14591696.65	40°10'40.227"N	80°38'26.148"W	7128.32	327.079	0.33	-0.33	-0.03
12635.00	90.650	347.980	5761.60	7196.71	6070.35	-3894.22	1740786.29	14591783.31	40°10'41.085"N	80°38'26.403"W	7212.08	327.319	2.46	0.76	2.34
12728.00	90.680	349.080	5760.52	7285.42	6161.48	-3912.72	1740767.81	14591874.41	40°10'41.986"N	80°38'26.636"W	7298.85	327.583	1.18	0.03	1.18
12821.00	90.800	349.750	5759.32	7373.68	6252.89	-3929.80	1740750.73	14591965.78	40°10'42.890"N	80°38'26.852"W	7385.25	327.852	0.73	0.13	0.72
12913.00	90.280	345.790	5758.45	7461.77	6342.78	-3949.28	1740731.25	14592055.64	40°10'43.779"N	80°38'27.098"W	7471.79	328.092	4.34	-0.57	-4.30
13006.00	90.920	340.870	5757.48	7552.61	6431.84	-3975.95	1740704.60	14592144.66	40°10'44.660"N	80°38'27.437"W	7561.53	328.277	5.33	0.69	-5.29
13098.00	90.830	339.040	5756.07	7643.49	6518.25	-4007.48	1740673.08	14592231.04	40°10'45.515"N	80°38'27.839"W	7651.63	328.416	1.99	-0.10	-1.99
13191.00	90.520	337.950	5754.98	7735.70	6604.77	-4041.57	1740639.00	14592317.52	40°10'46.372"N	80°38'28.273"W	7743.21	328.537	1.22	-0.33	-1.17
13284.00	90.430	337.770	5754.20	7828.04	6690.91	-4076.62	1740603.97	14592403.63	40°10'47.224"N	80°38'28.720"W	7834.99	328.647	0.22	-0.10	-0.19
13377.00	90.520	338.010	5753.43	7920.38	6777.07	-4111.62	1740568.98	14592489.75	40°10'48.077"N	80°38'29.167"W	7926.79	328.755	0.28	0.10	0.26
13469.00	90.460	338.150	5752.65	8011.69	6862.41	-4145.96	1740534.65	14592575.07	40°10'48.922"N	80°38'29.605"W	8017.59	328.862	0.17	-0.07	0.15
13562.00	90.430	338.870	5751.92	8103.90	6948.95	-4180.03	1740500.60	14592661.56	40°10'49.778"N	80°38'30.039"W	8109.28	328.972	0.77	-0.03	0.77
13655.00	89.940	342.170	5751.62	8195.62	7036.61	-4211.04	1740469.60	14592749.19	40°10'50.646"N	80°38'30.434"W	8200.41	329.102	3.59	-0.53	3.55
13748.00	90.280	344.430	5751.45	8286.50	7125.68	-4237.76	1740442.89	14592838.23	40°10'51.527"N	80°38'30.774"W	8290.59	329.259	2.46	0.37	2.43
13841.00	90.550	341.340	5750.77	8377.51	7214.55	-4265.13	1740415.53	14592927.06	40°10'52.406"N	80°38'31.122"W	8380.99	329.409	3.34	0.29	-3.32
13933.00	90.740	340.290	5749.74	8468.18	7301.43	-4295.36	1740385.31	14593013.91	40°10'53.266"N	80°38'31.507"W	8471.19	329.532	1.16	0.21	-1.14
14026.00	90.650	344.660	5748.61	8559.31	7390.09	-4323.35	1740357.33	14593102.54	40°10'54.143"N	80°38'31.863"W	8561.82	329.671	4.70	-0.10	4.70
14119.00	91.260	345.850	5747.06	8649.45	7480.01	-4347.02	1740333.67	14593192.42	40°10'55.033"N	80°38'32.163"W	8651.42	329.837	1.44	0.66	1.28
14212.00	90.680	344.150	5745.48	8739.70	7569.83	-4371.09	1740309.62	14593282.20	40°10'55.921"N	80°38'32.469"W	8741.20	329.996	1.93	-0.62	-1.83
14304.00	90.830	343.660	5744.27	8829.39	7658.21	-4396.59	1740284.12	14593370.55	40°10'56.796"N	80°38'32.793"W	8830.53	330.140	0.56	0.16	-0.53
14397.00	90.770	343.750	5742.97	8920.12	7747.47	-4422.68	1740258.04	14593459.78	40°10'57.679"N	80°38'33.124"W	8920.95	330.280	0.12	-0.06	0.10
14490.00	90.280	343.810	5742.12	9010.84	7836.76	-4448.66	1740232.08	14593549.03	40°10'58.562"N	80°38'33.454"W	9011.40	330.418	0.53	-0.53	0.06
14583.00	90.370	342.240	5741.59	9101.81	7925.70	-4475.81	1740204.94	14593637.94	40°10'59.442"N	80°38'33.799"W	9102.18	330.546	1.69	0.10	-1.69
14675.00	90.310	340.250	5741.05	9192.36	8012.81	-4505.38	1740175.37	14593725.02	40°11'00.304"N	80°38'34.176"W	9192.59	330.652	2.16	-0.07	-2.16
14768.00	90.400	340.230	5740.47	9284.16	8100.34	-4536.83	1740143.94	14593812.51	40°11'01.170"N	80°38'34.576"W	9284.30	330.748	0.10	0.10	-0.02
14861.00	90.250	343.840	5739.94	9375.44	8188.79	-4565.51	1740115.27	14593900.92	40°11'02.046"N	80°38'34.941"W	9375.50	330.859	3.89	-0.16	3.88
14946.00	90.310	343.180	5739.53	9458.44	8270.29	-4589.63	1740091.15	14593982.39	40°11'02.852"N	80°38'35.248"W	9458.46	330.972	0.78	0.07	-0.78
14971.00	90.310	343.180	5739.39	9482.89	8294.22	-4596.87	1740083.92	14594006.31	40°11'03.089"N	80°38'35.340"W	9482.89	331.004	0.00	0.00	0.00

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Ohio County, WV	Well	Rayle Coal OHI 201H
Field	Ohio	Wellbore	Rayle Coal OHI 201H AWB
Facility	Rayle Coal OHI Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Rayle Coal OHI 201H AWB Ref Wellpath: Rayle Coal OHI 201H AWP Proj: 14971'MD

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	26.00	371.00	345.00	26.00	370.98	0.00	0.00	-0.37	-3.50
13.375in Casing	26.00	371.00	345.00	26.00	370.98	0.00	0.00	-0.37	-3.50
12.25in Open Hole	371.00	1736.00	1365.00	370.98	1724.36	-0.37	-3.50	74.26	96.22
9.625in Casing	26.00	1736.00	1710.00	26.00	1724.36	0.00	0.00	74.26	96.22
8.75in Open Hole	1736.00	6396.00	4660.00	1724.36	5680.05	74.26	96.22	163.56	-2035.47
8.5in Open Hole	6396.00	14971.00	8575.00	5680.05	5739.39	163.56	-2035.47	8294.22	-4596.87

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Rayle Coal OHI 201H BHL Rev-3	5733.00	8297.82	-4588.65	1740092.13	14594009.92	40°1'03.124"N	80°38'35.234"W	point
Rayle Coal OHI 201H LP Rev-3	5795.96	561.79	-2209.26	1742470.60	14586276.90	40°09'46.581"N	80°38'04.987"W	point
Rayle Coal OHI 201H LP Rev-4	5809.35	648.69	-2235.99	1742443.88	14586363.76	40°09'47.441"N	80°38'05.327"W	point

WELLPATH COMPOSITION - Ref Wellbore: Rayle Coal OHI 201H AWB Ref Wellpath: Rayle Coal OHI 201H AWP Proj: 14971'MD

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	6396.00	OWSG MWD rev2 - Standard	01 Premier MWD (156'-6396')	Rayle Coal OHI 201H AWB
6396.00	14946.00	BHI AutoTrak Curve (Short)	02 BH AT Curve <8-1/2"> (6359')(6426'-14946')	Rayle Coal OHI 201H AWB
14946.00	14971.00	Blind Drilling (std)	Projection to bit	Rayle Coal OHI 201H AWB

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 201H
Area	Ohio County, WV	Well	Rayle Coal OHI 201H
Field	Ohio	Wellbore	Rayle Coal OHI 201H AWB
Facility	Rayle Coal OHI Pad		

COMMENTS

Wellpath general comments

API: 47-069-00263-0000
BH Job #: 109301720
Rig: SDC 41
Duration: 08/10/2018 - 08/13/2018